

10TH EXPERT GROUP MEETING ON

# Statistical Data and Metadata eXchange

JANUARY 25-28, 2021

## Modeling Approaches: **ECOFIN DSD**

January 26, 2021

Yamil Vargas  
Statistics Department  
International Monetary Fund

# What is ECOFIN?

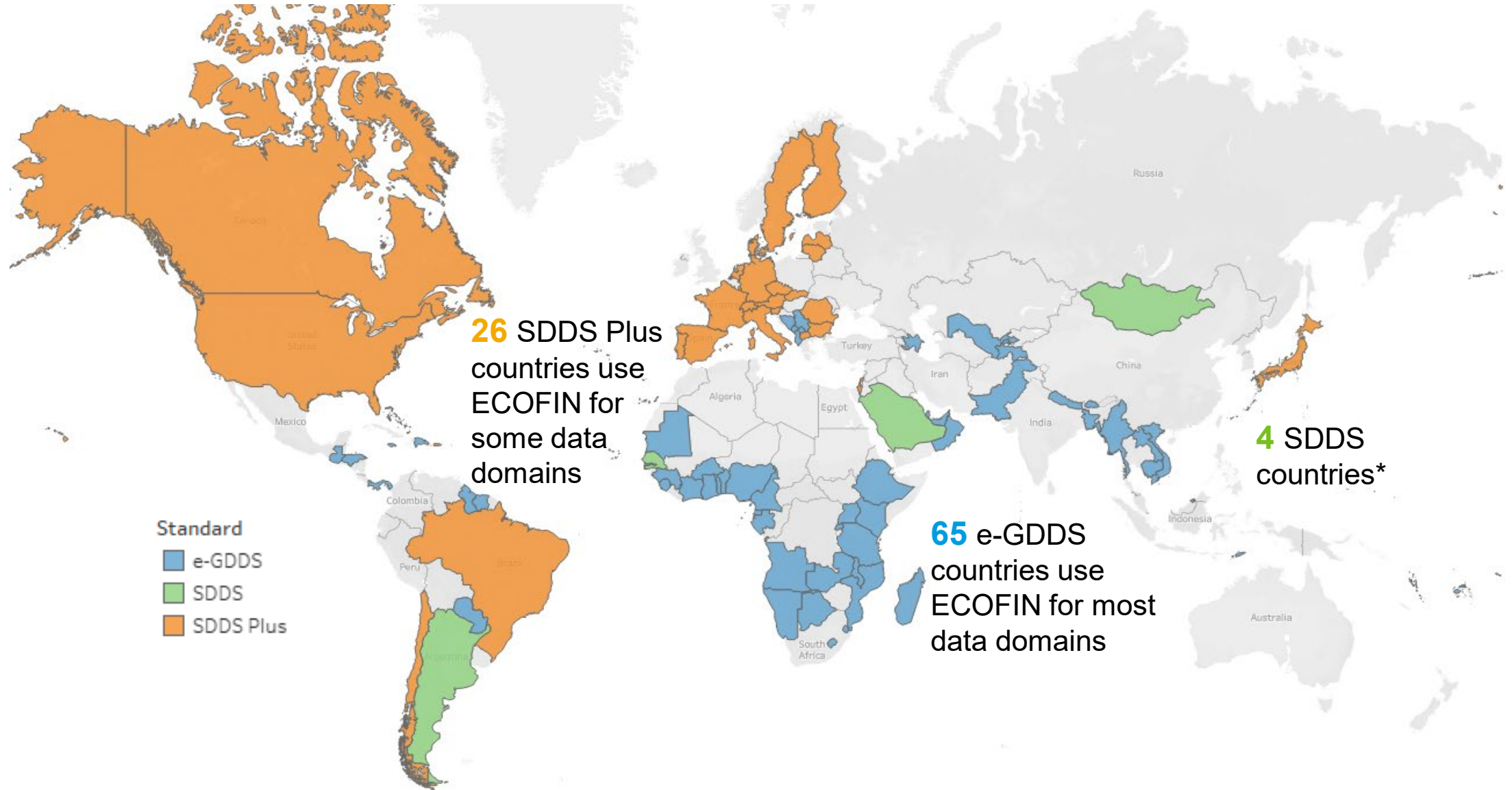
- The Economic and Financial Statistics (ECOFIN) Data Structure Definition (DSD) is a multi-domain DSD developed and maintained by the IMF.
- ECOFIN is a DSD that allows countries implementing the IMF Data Dissemination Standards to publish data using SDMX on their [National Summary Data Pages \(NSDP\)](#).
- ECOFIN is available on the IMF SDMX Registry – [SDMX Central](#).
- The ECOFIN DSD is a simplified DSD meant to reach the widest coverage.
- ECOFIN DSD complements the global DSDs, which are available in the SDMX Registry – countries are free to decide which DSD (ECOFIN; Global DSDs) they wish to use for each data category.

# What are the IMF Data Dissemination Standards?

Data dissemination standards enhance the availability of timely and comprehensive statistics, which contributes to sound macroeconomic policies and the efficient functioning of financial markets. It has three tiers:

1. The Enhanced General Data Dissemination System (**e-GDDS**) is designed to assist participants in improving data transparency and governance by publishing essential data. **SDMX-enabled NSDP is encouraged.**
2. The Special Data Dissemination Standard (**SDDS**) is a global benchmark for disseminating macroeconomic statistics to the public. **SDMX-enabled NSDP is optional.**
3. The Special Data Dissemination Standard Plus (**SDDS Plus**) is the highest tier in the Fund's Data Standards Initiatives and builds on the progress achieved under the SDDS. **SDMX-enabled NSDP is required.**

# 95 countries disseminate data in SDMX using ECOFIN



**26** SDDS Plus countries use ECOFIN for some data domains

**4** SDDS countries\*

**65** e-GDDS countries use ECOFIN for most data domains

Standard  
■ e-GDDS  
■ SDDS  
■ SDDS Plus

# Why was **ECOFIN** created and how is it used now?

- ECOFIN was developed in 2014 to allow the adoption of SDMX-enabled NSDPs for SDDS Plus countries.
- ECOFIN usage has since been expanded to encourage e-GDDS and SDDS countries to disseminate data using SDMX on their NSDPs.
- ECOFIN aims to
  - Improve dissemination of data in a common machine-readable format.
  - Improve the monitoring of data timeliness and periodicity, as agreed with member countries.
  - Accommodate a broad range of statistical concepts and technical capacity.

# ECOFIN has advantages: **simple structure** and **wide coverage**

- ECOFIN is a comprehensive DSD that allows data transmission with only five dimensions, a primary measure and one mandatory attribute. It heavily relies on the INDICATOR code list, which is a “composite dimension”.

Dimension	Description	Code List Mnemonic	Maint. Org.
DATA_DOMAIN	Data Domain	<a href="#">CL_DATADOMAIN</a>	IMF
REF_AREA	Reference country or area	<a href="#">CL_REF_AREA</a>	IMF
<b>INDICATOR</b>	Economic Indicator	<a href="#">CL_INDICATOR</a>	IMF
COUNTERPART_AREA	Counterpart country or area	<a href="#">CL_REF_AREA</a>	IMF
FREQ	Frequency	<a href="#">CL_FREQ</a>	SDMX-SWG
<b>Time Dimension</b>			
TIME_PERIOD	Time	Local Representation	
<b>Primary Measure</b>			
OBS_VALUE	Observation Value		
<b>Series Attributes</b>			
BASE_PER	Base Period (conditional)	Local Representation	IMF
UNIT_MULT	Unit multiplier	<a href="#">CL_UNIT_MULT</a>	IMF
TIME_FORMAT	Time Format (conditional)	<a href="#">CL_TIME_FORMAT</a>	SDMX-SWG
<b>Dataset Attributes</b>			
COMMENT	Detailed of the data set (conditional)	Uncoded	IMF
<b>Observation Attributes</b>			
OBS_STATUS	Observation Status (conditional)	<a href="#">CL_OBS_STATUS</a>	IMF



# ECOFIN has advantages: simple structure and wide coverage

- e-GDDS countries disseminate a wide array of data in SDMX using ECOFIN.
- SDDS Plus countries also use ECOFIN to disseminate data in SDMX for domains not covered by the Global DSDs (Financial Sector) or for preference (Prices).

## Example of an SDDS Plus country: *Spain's NSDP DSD by domain*

BOP (Global DSD)	NA (Global DSD)	ECOFIN DSD
Balance of Payments (BOP)	National Accounts (NAG)	Depository Corporations Survey (DCS)
International investment position (IIP)	Sectoral Balance Sheets (SBS)	Central Bank Survey (CBS)
International Reserves (ILV1)	Debt Securities (DSE)	Other Financial Corporations Survey (OFS)
Template on International Reserves and Foreign Currency Liquidity (ILV2)	General Government or Public Sector Operations (GGO)	Interest Rates (INR)
External Debt (EXD)	General Government Gross Debt (GGD)	Financial Soundness Indicators (FSI)
	Central Government Operations (CGO)	Merchandise Trade (Foreign Trade) (MET)
	Central Government Debt (CGD)	Production Index (IND)
		Consumer Price Index (CPI)
		Producer Price Index (PPI)
		Employment (EMP)
		Unemployment (UEM)
		Wages/Earnings (WOE)
		Population (POP)

# ECOFIN also presents disadvantages: **vertical complexity and limited flexibility**

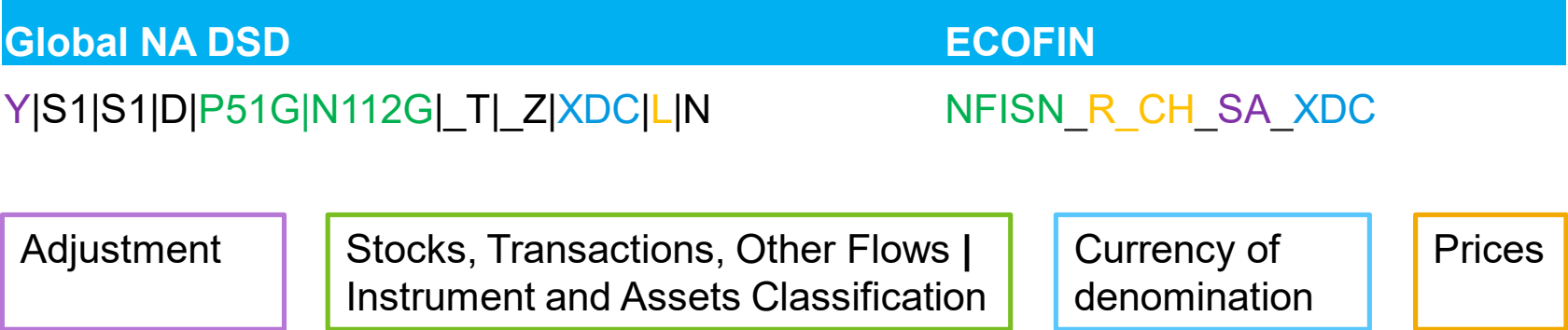
- “High vertical or within-dimension complexity is characterized by fewer but more complex dimensions with longer code lists” (Guidelines for the Design of DSDs, SDMX 2013)
- It is certainly the case for the ECOFIN DSD since current INDICATOR code list has more than 65K codes:
  - Codes in the INDICATOR code list follow the same structure used by the IMF internal nomenclature.
  - *Standard* concepts—i.e., concepts that follow an internationally agreed methodology, classification, or are widely used by IMF member countries—are coded using *standard codes*.
  - These *standard codes* are reusable, allowing for cross-country comparability.



# ECOFIN also presents disadvantages: vertical complexity and limited flexibility [cont.]

- The INDICATOR code list is a composite dimension including several dimensions in a single code, for instance:

**Total gross fixed capital formation: Other buildings and structures, National Currency**



## ECOFIN also presents disadvantages: vertical complexity and **limited flexibility**

- Composite dimensions such as INDICATOR are usually “easier to understand by end users, but less flexible in terms of re-usage by other systems and adaptation to future requirements” (Guidelines for the Design of DSDs, SDMX 2013).
- There are many series that do not readily or clearly adhere to internationally recognized methodology. For these series, country-specific INDICATOR codes are assigned—these codes are not reusable across countries.
- These country-specific codes have not been added to ECOFIN yet, as adding all country-specific codes would substantially increase the INDICATOR code list.

# Conclusions

- Countries implementing SDMX-enabled NSDPs have benefited from having a simple DSD such as ECOFIN.
- However, maintaining ECOFIN presents some challenges due to the uncertainty of type of indicator disseminated by countries.
- We are looking at options to handle the growing list of country-specific codes:
  - Add all codes to the INDICATOR code list?
  - Create country DSDs to manage country-specific codes?
  - Add more dimensions to unpack INDICATOR?
  - Other?

# Discussion [Q&A]

For follow-up questions:  
[yvargas@imf.org](mailto:yvargas@imf.org)